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ABSTRACT

Results from this two-year study of seven kindergarten curricula in 1973-74 support the hypothesis that structured programs produce greater cognitive gains for disadvantaged children. The study also suggests that a structured program may be more beneficial for high socioeconomic children. The six curricula described and evaluated are: Lippincott's Beginning Program, Alpha Time, Getting a Head Start, Follow Through Model, Regular Kindergarten Program (Fort Worth Independent School District), and Bilingual Model. The Lippincott's Beginning to Read, Write, and Listen Program (a highly structured language-based program) was found to be most effective for low socioeconomic status (SES), high SES, and Anglo and black children. Program effects were similar for middle SES children in the four curricula examined. The effects of half-day vs full-day sessions were not supportive of full-day programs for middle SES children either year. High SES students were not in full-day programs the first year of this study; however, the second year of this study full-day programs were found to be more advantageous to high SES children in the Lippincott curricula and the Fort Worth Independent School District continuum. The first year evaluation supported full-day programs for low SES children. Only full-day programs were provided for low SES children during the second year of this study. (Author/DEP)

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Kindergarten - Fun and Games
or Readiness for First Grade
A Comparison of Seven Kindergarten Curricula

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Fort Worth Independent School District

March, 1976

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1974-75

ABSTRACT

EVALUATION OF SIX KINDERGARTEN CURRICULA

by Fae Lysiak and Dr. Charles L. Evans
Department of Research and Evaluation
Fort Worth Independent School District

This evaluation report is an extention of the evaluation of seven kindergarten curricula in 1973-74. Two of the programs evaluated in the 1973-74 school year were dropped and another program was added.

Results from this two-year study support the hypothesis that structured programs produce greater cognitive gains for disadvantaged children. This study also suggested that a structured program may be more benefical for high socio-economic children.

The Lippincott's Beginning to Read, Write, and Listen Program (a highly structured language-based program) was found to be most effective for low SES, high SES, and Anglo and Black children. Program effects were similar for middle SES children in the four curricula examined.

The effects of half-day vs full-day sessions were not supportive of full-day programs for middle SES children either year. High SES students were not in full-day programs the first year of this study, however, the second year of this study full-day programs were found to be more advantageous to high SES children in the Lippincott curricula and the Fort Worth Independent School District continuum. The first year evaluation supported full-day programs for low SES children. Only full-day programs were provided for low SES children during the second year of this study.

CHAPTER I

Introduction

Six kindergarten curricula were implemented in the F.W.I.S.D. during the 1974-75 school year. Five of these curricula were included in the seven curricula that were implemented and evaluated during the 1973-74 school year. The results from that evaluation indicate that the curricula used in kindergarten affects the scores obtained by children on an end-of-year readiness test.

The purposes of this study were to: 1) determine if results were similar to the findings obtained in 1973-74; 2) compare the effectiveness of the six kindergarten programs for various ethnic and/or socio-economic groups; and 3) compare the effects of half-day kindergarten with those of full-day kindergarten.

The evaluation of these curricula was designed to provide the school district, as well as state and national early childhood agencies, data concerning the effectiveness of each program. A description of the six kindergarten curricula follows.

1) Lippincott's Beginning Program

   Beginning to Read, Write, and Listen is a reading-language arts program which includes handwriting, auditory skills, language activities, art projects, spelling, and reading. It develops the essential attention span, perceptual discrimination, directionality, eye-hand coordination, manual dexterity, and beginning concepts (such as size, color, and position). Materials include letterbooks, multi-sensory letters, and cassette tapes.

2) Alpha Time

   Alpha Time, a pre-reading program, emphasizes positive social behaviors, as well as auditory and visual discrimination through games, discussions, and established learning objectives.

Alpha Time (continued)

The child is introduced first to the letters and then to letter sounds. Letters are personified through the use of "Huggables", inflatable Letter People.

The program is structured to offer vocabulary and oral communication skills and many other major skills which include those of giving and following directions.

3) Getting A Head Start

Getting A Head Start is planned for use with pupils who enter school with limited experiential concepts and a lack of facility with the oral language of the classroom. A feature of the program includes a large flip-chart book with pictures common objects and typical scenes from urban and rural life. A Teacher's Guide contains lesson materials designed to build concepts and vocabulary, to encourage self-expression and the use of simple sentence patterns, and to provide some experience in distinguishing different consonant sounds.

4) Follow Through Model

Follow Through is a federally-assisted, comprehensive program designed to expand the individualized approach to instruction by providing a learning environment in which each child can experience daily success and progress in a variety of behaviors which will ultimately result in the realization of the program's four principal goals: Intellectual Development; Language Development; Development of a Sound Attitudinal Base; and Development of Societal Arts and Skills.

5) Regular Kindergarten Program

The Regular Program consists primarily of the use of the F.W.I.S.D. Early Childhood Continuum. The F.W.I.S.D. Language Activities for Early Childhood Kit, and the Peabody Language Kit, Level I, supplement the continuum.

The Early Childhood Continuum is a total curriculum developed to be used with four and five-year-old children. The Continuum is divided into eight main sections with suggested activities for the following: Social Studies; Special Days; Language Development; Mathematics; Science; Motor Skills; Expressive Arts; and Health-Nutrition-Safety. The Language Activities include Pre-Vocabulary Auditory Skills; Vocabulary; Color; Memory Classification; Visual Discrimination and Perception; Thinking Skills; Auditory Discrimination; and Sounds and Symbolization.

Regular Kindergarten Program (continued)

F.W.I.S.D.'s Language Activities for Early Childhood Kit contains a teacher handbook and suggested activities for learning centers which are both child-selected and teacher-directed.

The Level I Peabody Language Program emphasizes reception, expression, and conceptualization. The program stresses overall language development rather than specific training in selected psycholinguistic processes. The Level I Kit activities include a balance of both oral language and intellectual stimulation.

6) Bilingual Model

The Bilingual Program is a federally assisted, comprehensive program designed to improve the educational opportunities for Mexican-American children. Instruction is presented in the child's dominant language. The child is given the opportunity to learn a second language, while at the same time improving the skills in their first language. The Bilingual Program consists primarily of the use of the Peabody Language Kit, Level I, the Spanish Curricula Development Center Strands, and Ginn CORE English, the F.W.I.S.D. Language Activities for Early Childhood Kit, and the F.W.I.S.D. Early Childhood Continuum.

The Spanish Curricula Development Center Strands are Spanish language instruction units. The strands include a teacher's guide, ditto packets, and supplements for each unit. The Southwest edition used in the F.W.I.S.D. is designed for Mexican-American children in this area. The Spanish as a Second Language units are utilized to teach the English-dominant child Spanish. These strands provide the child the structures and vocabulary to function in a bilingual situation.

The CORE English program is designed to meet the needs of the child whose first language is not English. The CORE English kit contains a teacher's guide, children's workbooks, picture cards, and manipulative materials.

In-service training for each program was provided in an orientation session in August, 1974 by the district's Early Childhood Specialists. Teachers were also provided an opportunity to preview all programs in the spring of 1974. All new teachers during the 1974-75 school year were provided additional in-service on the use of the curriculum they were going to be teaching.

CHAPTER II

Evaluation Design

Program Placement

Program placement was set up by the Early Childhood Specialists and the Assistant Director of Elementary Education in charge of Early Childhood Education. Programs such as Follow Through and Bilingual, due to federal program guidelines, were in disadvantaged or low socio-economic schools only. The placement of programs resulted in insufficient data for measuring the effects of some programs on certain socio-economic groups, races, and half-day/full-day sessions.

Test Instruments

The same instruments used in the evaluation of the 1973-74 kindergarten program were used again in 1974-75. The Boehm Test of Basic Concepts was used as the pretest covariance, and the Metropolitan Readiness Test was used as the posttest. The Boehm is a picture test based on concepts found in typical kindergarten and primary grade instructional materials. Designed to aid in both the detection and remediation of deficiencies in verbal understanding, the BTBC tests the child's mastery of basic concepts and also serves as a guide for the classroom teacher's instructional plans.

The Metropolitan Readiness Test consists of six subtests to measure: word meaning; listening comprehension skills; matching words and abstract designs; recognition of lower-case letters of the alphabet; number knowledge; and copying letters and abstract geometric shapes. One overall total score is converted into a letter, A through E, corresponding to five degrees of readiness status.

Testing Procedures

A random sample of children was selected for pretesting from a stratified random sample of kindergarten classes. Classes were stratified on the basis of socio-economic level of schools, types of curriculum being taught, and on half-day/full-day sessions. In order to have an adequate sample size in all cells, a larger sample was required in some classes. Generally, seven children were randomly selected from each class. Due to the small number of full-day programs for high SES children, intact classes were tested. In all, 916 students from 111 classes were pretested in September.

All children pretested in September who were still enrolled in the program were posttested in May. Tests were administered by Resource Teachers. The Resource Teachers were given test instructions by the evaluator to ensure consistency in testing procedures.

SES Data

The 1970 census data were used to determine the SES for the kindergarten report. The census data used four factors to determine a composite SES score for each census tract (1, pp. 159-163) which were: occupation; education; housing; and income. The composite score for each tract within a school's boundary was used to determine an average composite SES score for each elementary school. A mean SES composite score of 99.38, with a standard deviation of 44.68, was obtained on all census tracts within the Fort Worth Standard Metropolitan Statistical Area. This mean and standard deviation was used to categorize each school's SES rating. All schools one quartile (.67450) above and below the means (range of 69 to 129) were

rated as middle SES schools. In the first quartile (below 69), schools were rated as low SES, and those in the fourth quartile (above 129) were rated as upper SES schools.

Variables Examined

1) SES Data were collected for each school to determine curriculum effects of high, low, and middle SES groups. The 1970 census data were used to determine the SES.
2) Ethnicity of Children was one variable analyzed to determine curriculum effects on the three major ethnic groups represented, which were Black, Mexican American, and Anglo.
3) Full-Day and Half-Day effects were analyzed across curricula when possible. Some curricula were placed in only full-day programs.

Statistical Procedures

Two basis statistical tests were used to analyze the data: analysis of covariance (COVARY) and multiple linear regression (MLR). A one-way analysis of covariance was utilized to examine comparative effects of the six programs across the district. Two-way analyses of covariance were applied to test program effects by ethnicity, by socio-economic status (SES), and by length of session (full-day/half-day). Multiple linear regression was utilized to further the assessment of effects of SES, ethnicity, and length of sessions.

CHAPTER III

Test Results and Analysis

Data collected from the administration of the Boehm Test of Basic Concepts in the fall and the Metropolitan Readiness Test in the spring were analyzed to aid the formulation of answers to the following questions:

1) Which of the six kindergarten programs obtained the best effect on cognitive skills related to school readiness?
2) What were the effects of the programs for the various socio-economic status groups?
3) What were the effects of the programs for the various ethnic groups?
4) What were the differentiated effects for half-day and full-day sessions?

Test results are reported below for each of the questions above.

Question 1.

Which of six kindergarten programs will obtain the best effects on cognitive skills related to school readiness?

Samples of children in all programs were administered the Boehm Test in the fall to measure general ability and the Metropolitan Readiness Test in the spring. The analysis of covariance statistical treatment was applied to the data to compare the effects of the various programs. The resulting data are reported in Table 1.

Table 1. A Comparison of Program Effects across Ethnic Groups, Socio-Economic Groups, and Session Length

Program (Ranked by Effect)	N	Boehm Pretest RS	MRT Posttest RS	Adj. Posttest RS*
Lippincott	138	36	70	67
FWISD	262	35	64	62
Getting a Head Start	81	34	60	61
Alpha Time	204	35	62	61
Bilingual	48	25	46	59
Follow Through	25	27	46	57
Aggregate	758	34	62	-

*Differences are significant (F = 8.7).

Differences in posttest means were significant (F = 8.7). A comparison of pairs of means with the Scheffé test revealed that the Lippincott mean significantly differed from all other program means. Other program means did not differ significantly from each other.

These comparisons of differences in growth of students in the various programs are depicted in Exhibit A.

This comparison implies a superiority of the Lippincott program in generating cognitive school-readiness effects. Although the analysis did not allow for differences in children other than that reflected in pretest, that one predictor was only slightly improved when SES was included and not improved at all by inclusion of other selected variables: sex, ethnicity, or length of sessions.

Further comparisons were made of program effectiveness for specific ethnic and SES groups and are discussed in subsequent sections.

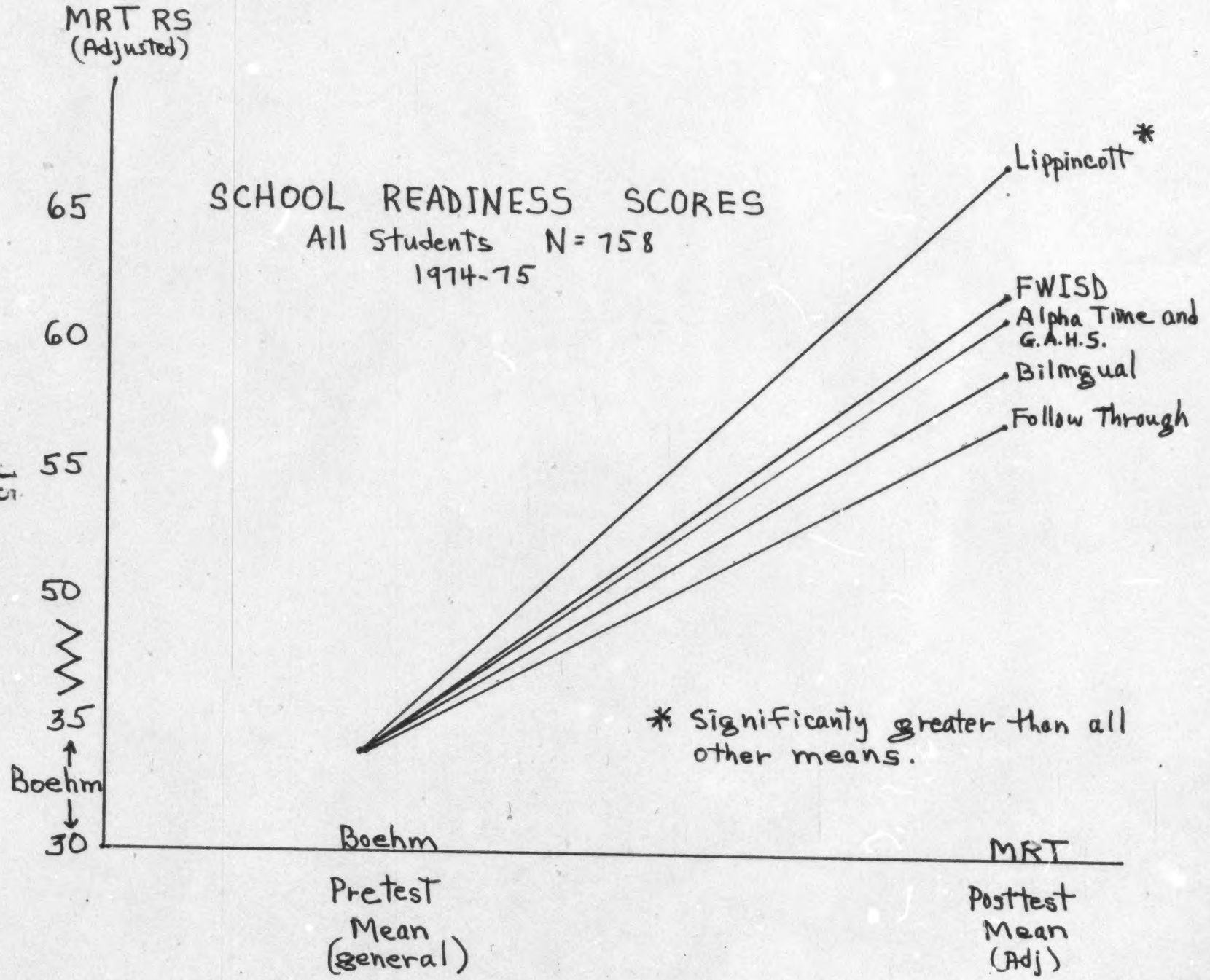

MRT RS
(Adjusted)
SCHOOL READINESS SCORES
All Students N = 758
1974-75
65
60
55
50
35
Boehm
30
Lippincott *
FWISD
Alpha Time and
G.A.H.S.
Bilmgual
Follow Through
* Significanly greater than all
other means.
Boehm
MRT
Pretest
Mean
(general)
Posttest
Mean
(Adj)

EXHIBIT A

Question 2.

What are effects of the various programs for specific socio-economic groups?

Low SES Students

Pretest, posttest, and adjusted posttest mean scores obtained by low SES students in full-day sessions in all six programs are shown in Table 2. Low SES students were not placed in half-day sessions.

Table 2. A Comparison of Program Effects for Low SES Students in Full-Day Sessions

Program (Ranked by Effect)	N	Boehm Pretest RS	MRT Posttest RS	Adj. Posttest RS*
Lippincott	32	32	65	61
Alpha Time	27	30	52	51
Bilingual	48	25	46	51
FWISD	65	30	53	51
Getting a Head Start	24	28	47	49
Follow Through	25	27	46	49
Aggregate	221	29	52	-

*Differences are significant ($F = 6.8$; $df = 2/220$).

The adjusted posttest means differed significantly ($F = 6.8$). A comparison of pairs of means revealed that 1) the Lippincott mean was significantly higher than all other means, but 2) other means did not differ significantly from each other.

These different program effects are depicted in Exhibit B.

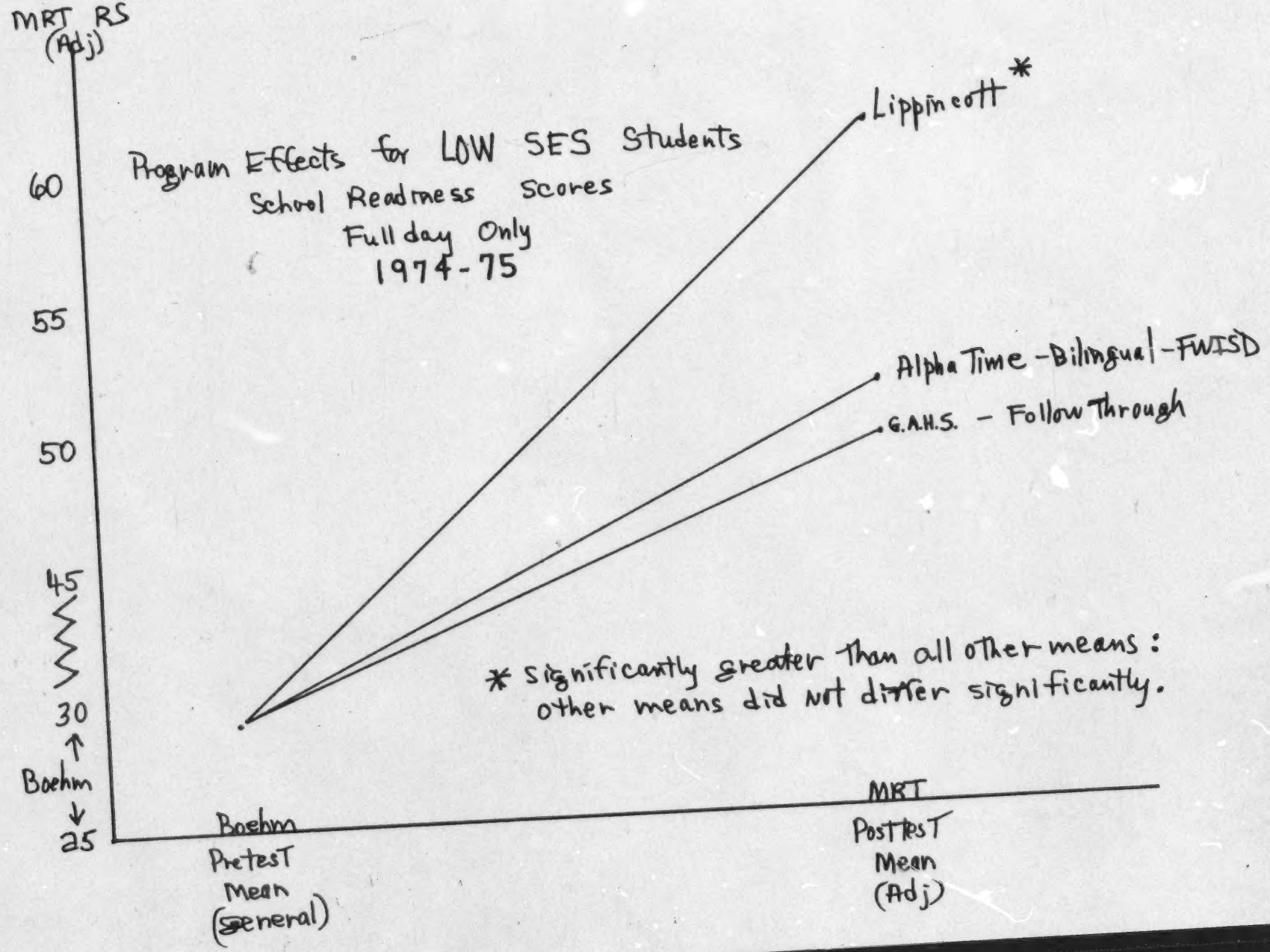

MRT RS
(Adj)
60
55
50
45
30
Boehm
25
Program Effects for LOW SES Students
School Readiness Scores
Full day Only
1974-75
Lippincott *
Alpha Time - Bilingual - FWISD
G.A.H.S. - Follow Through
* significantly greater than all other means:
other means did not differ significantly.
Boehm
Pretest
Mean
(General)
MRT
Post Test
Mean
(Adj)

EXHIBIT B

Middle SES Students

Sufficient numbers of middle SES students were available for comparison in three programs: FWISD, Alpha Time and Getting a Head Start. These comparisons, for both full-day and half-day sessions, are shown in Table 3.

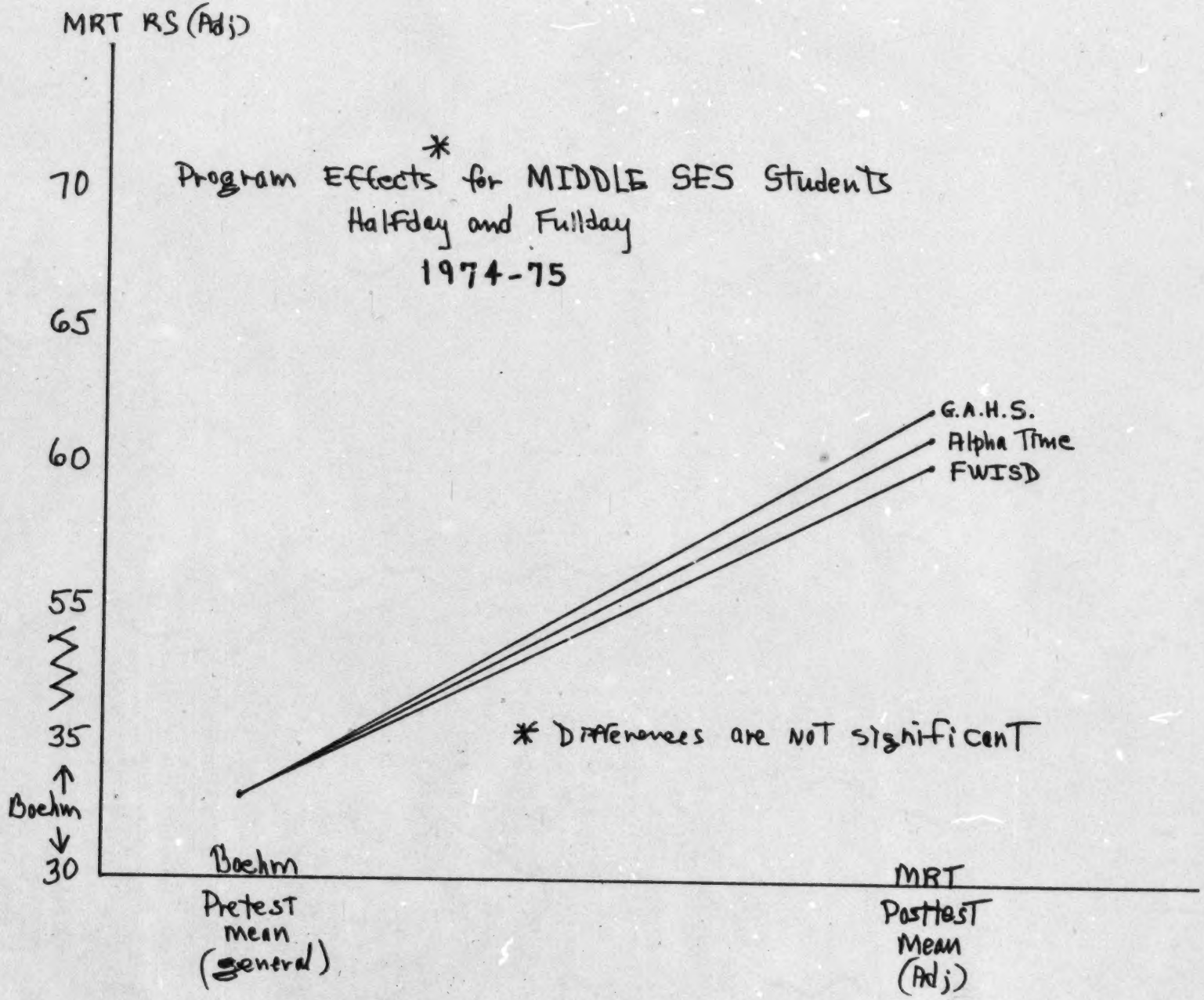
Table 3. A Comparison of MRT Scores in Half-Day and Full-Day Sessions, Middle SES Students, Three Programs

	Half-Day				Full-Day				Aggregate
Program	N	Boehm Pre	MRT Post	Adj. Post	N	Boehm Pre	MRT Post	Adj. Post	Adj. Means for Programs
FWISD	46	37	66	61	43	30	54	59	60*
Alpha Time	54	35	64	61	49	30	55	59	61*
G.A.H.S.	23	35	65	64	12	33	61	63	62*
Aggregate for Sessions	123	36**	65**	62***	108	30**	55**	60***	-

*Differences were not significant for programs (P = .55).
**The aggregate pretest mean equalled 33; aggregate posttest mean equalled 61.
***Differences were not significant for half-day/full-day (P = .30).

Differences in program means for combined sessions were not significant (P = .55 for program effects across sessions).

Thus, the data did not support a claim of superiority for middle SES groups for any program. These similar effects are depicted in Exhibit C.


MRT RS (Adj)
70
65
60
55
35
Boehm
30
Program Effects * for MIDDLE SES Students
Halfday and Fullday
1974-75
G.A.H.S.
Alpha Time
FWISD
* Differences are NOT significant
Boehm
Pretest
mean
(general)
MRT
Posttest
Mean
(Adj)

High SES Students

Sufficient numbers of high SES students were available in three programs: Alpha Time, Lippincott, and FWISD. These comparisons, for both full-day and half-day sessions, are shown in Table 4.

A significant (P = .001) difference in program means was noted. The Scheffé test revealed that the Lippincott and FWISD programs obtained significantly higher scores than the Alpha Time. These differences are depicted in Exhibit D.

Table 4. A Comparison of Full-Day vs. Half-Day Results, High SES Students, Three Programs

Program	Half-Day				Full-Day				Aggregate
	N	Boehm Pre*	MRT Post*	Adj. Post	N	Boehm Pre*	MRT Post*	Adj. Post	Adj. Means for Programs**
FWISD	36	38	67	69	67	41	78	77	73
Alpha Time	51	39	69	69	23	40	63	62	67
Lippincott	51	39	71	73	27	39	77	77	75
Aggregate for Sessions	138	39	70	71	117	40	75	74	-

*The aggregate pretest mean equalled 40; aggregate posttest mean equalled 72.
**Program differences were significant (P = .001).

SES as a Variable in the 'Regression Analysis'

Data in Table 5 report the independent effects of each variable as shown by the reduction of R^2 in MRT scores when a given variable is omitted from the regression analysis.

The exclusion of the variable from the full model indicated that it reduced the R^2 of the full model (see Table 5) only slightly, but enough to be statistically significant (F = 25; P = .01).

The findings of the 'analysis of regression' technique supports the conclusion that SES independently affects achievement.

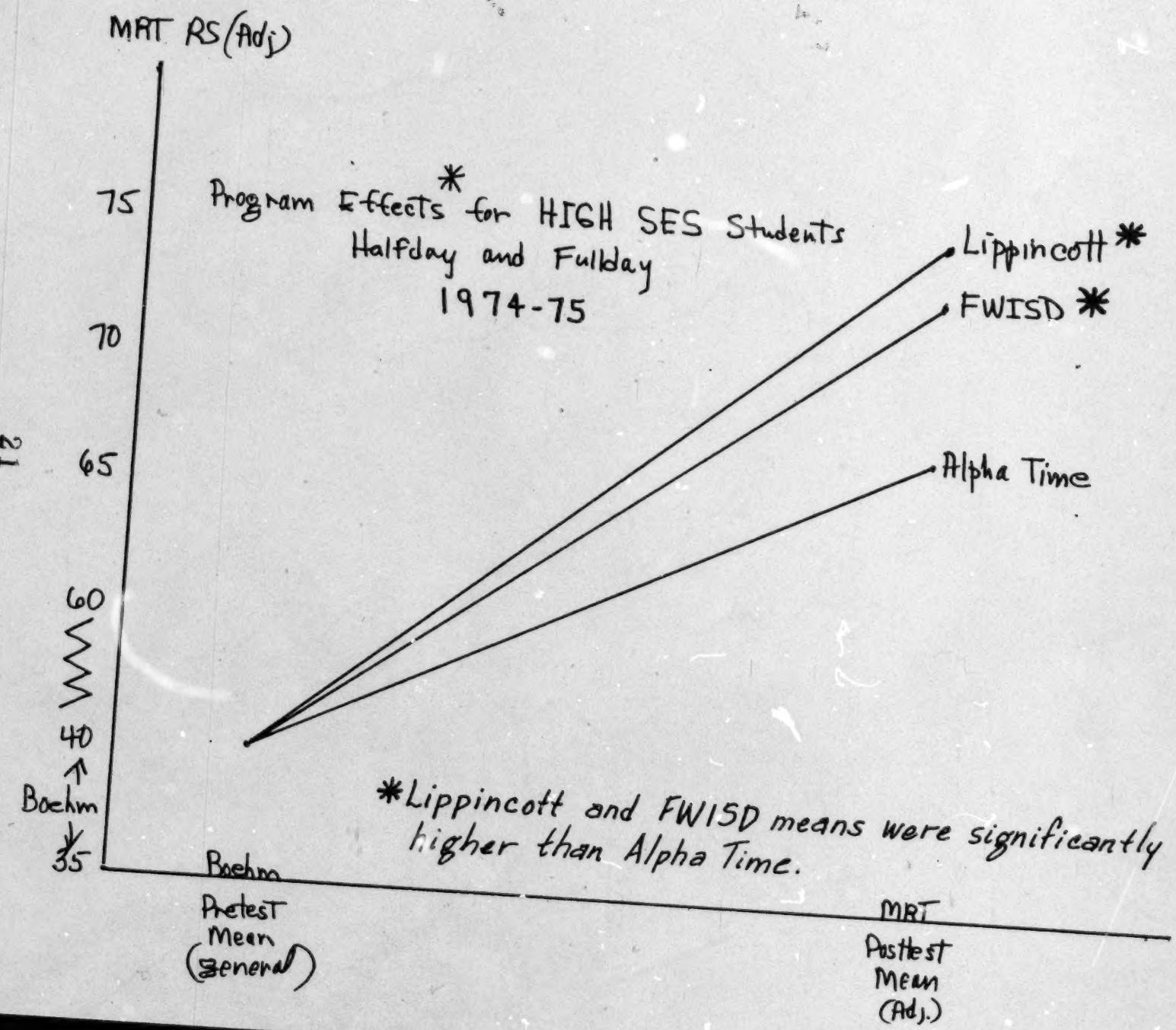

MAT RS (Adj)
75
70
65
60
40
Boehm
35
Program Effects * for HIGH SES Students
Halfday and Fullday
1974-75
Lippincott *
FWISD *
Alpha Time
*Lippincott and FWISD means were significantly higher than Alpha Time.
Boehm
Pretest
Mean
(General)
MAT
Posttest
Mean
(Adj.)

EXHIBIT D

Table 5. Comparisons of R^2s of Full and Restricted Models

Model	R	R^2	Sig. of Change in R^2
Full Model	.76	.58	---
Restricted Model #1 (Omit Pretest)	.53	.28	(P = .001)* (F = 555)
Restricted Model #2 (Omit Ethnicity)	.76	.58	(No change)
Restricted Model #3 (Omit Half-Day/Full-Day)	.76	.58	(No change)
Restricted Model #4 (Omit Sex)	.76	.58	(No change)
Restricted Model #5 (Omit SES)	.75	.57	(P = .01)* (F = 25)

*These significant changes in R^2 indicated that only SES and the pretest independently predicted posttest scores.

Question 3.

Which program will obtain the best effects for specific ethnic groups?

Anglo Children (Low SES)

Of the six programs, four served low SES Anglo children in full-day sessions: FWISD, Alpha Time, Bilingual, and Follow Through. A 'one-way analysis of covariance' statistical treatment was applied to these data. Results are shown in Table 6.

Table 6. Comparison of Program Effects on Low SES Anglos in Full-Day Sessions

Program (Ranked by Effect)	N	Boehm Pretest RS	MRT Posttest RS	Adj. Post* RS
FWISD	34	31	57	56
Alpha Time	12	29	52	54
Follow Through	9	28	46	50
Bilingual	9	32	48	45
Aggregate	64	30	53	-

*Differences are significant (P = .05; F = 3.82).

The adjusted posttests differ significantly at the .05 level of probability. Comparisons of pairs of adjusted means with the Scheffé test indicated that the FWISD program effects differed significantly from the Bilingual program effects. Other differences are not significant.

Pre-to-posttest correlations were high, ranging from .72 - .88. These effects are depicted in Exhibit E.

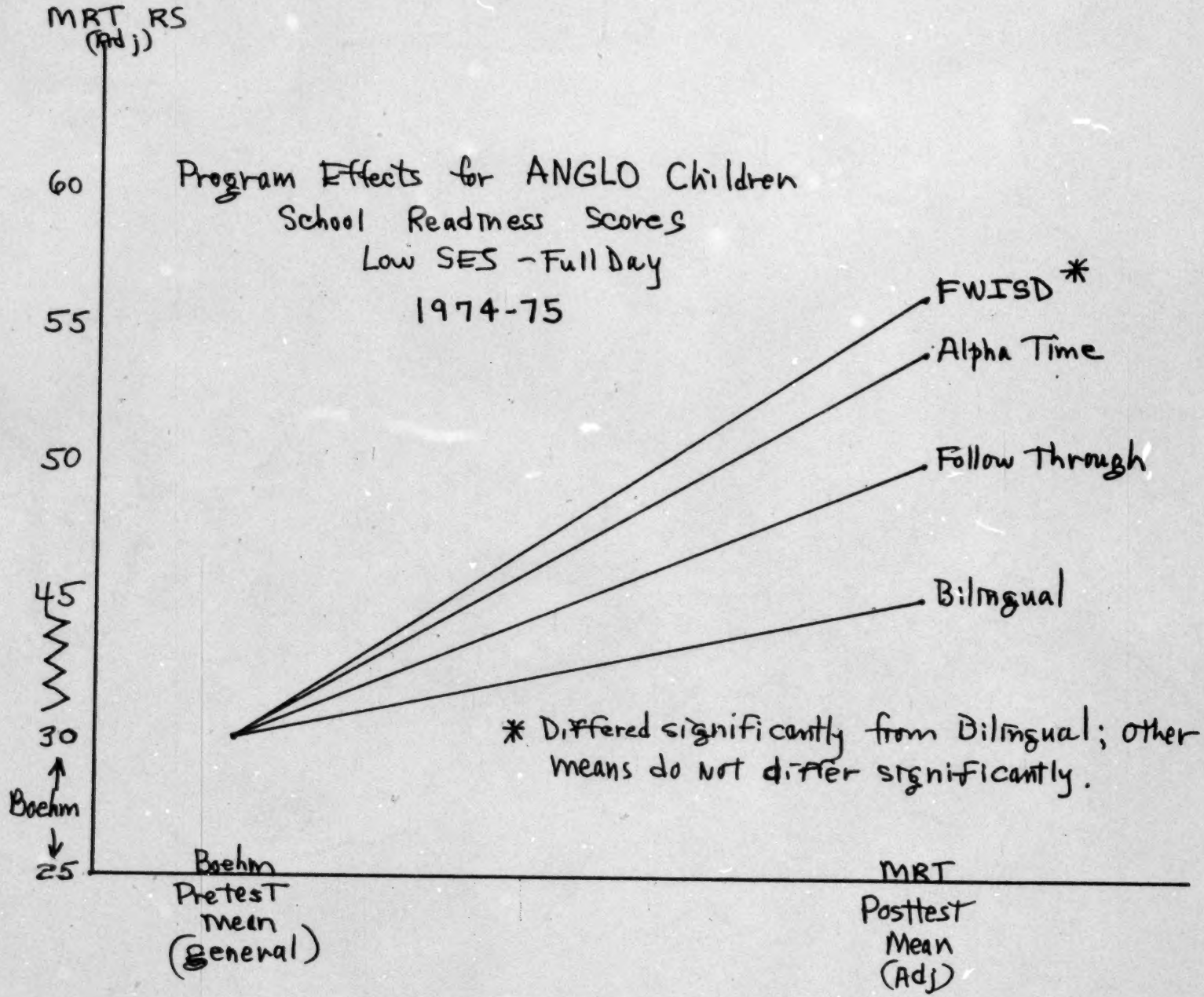

MRT RS (Adj)
60
55
50
45
30
Boehm
25
Program Effects for ANGLO Children
School Readiness Scores
Low SES - Full Day
1974-75
FWISD *
Alpha Time
Follow Through
Bilingual
* Differed significantly from Bilingual; other means do not differ significantly.
Boehm Pretest Mean (General)
MRT Posttest Mean (Adj)

EXHIBIT E

Anglo Students (Middle SES)

Sufficient numbers of middle SES Anglo students were identified in half-day sessions in four programs for analysis. Data in Table 7 depict the results.

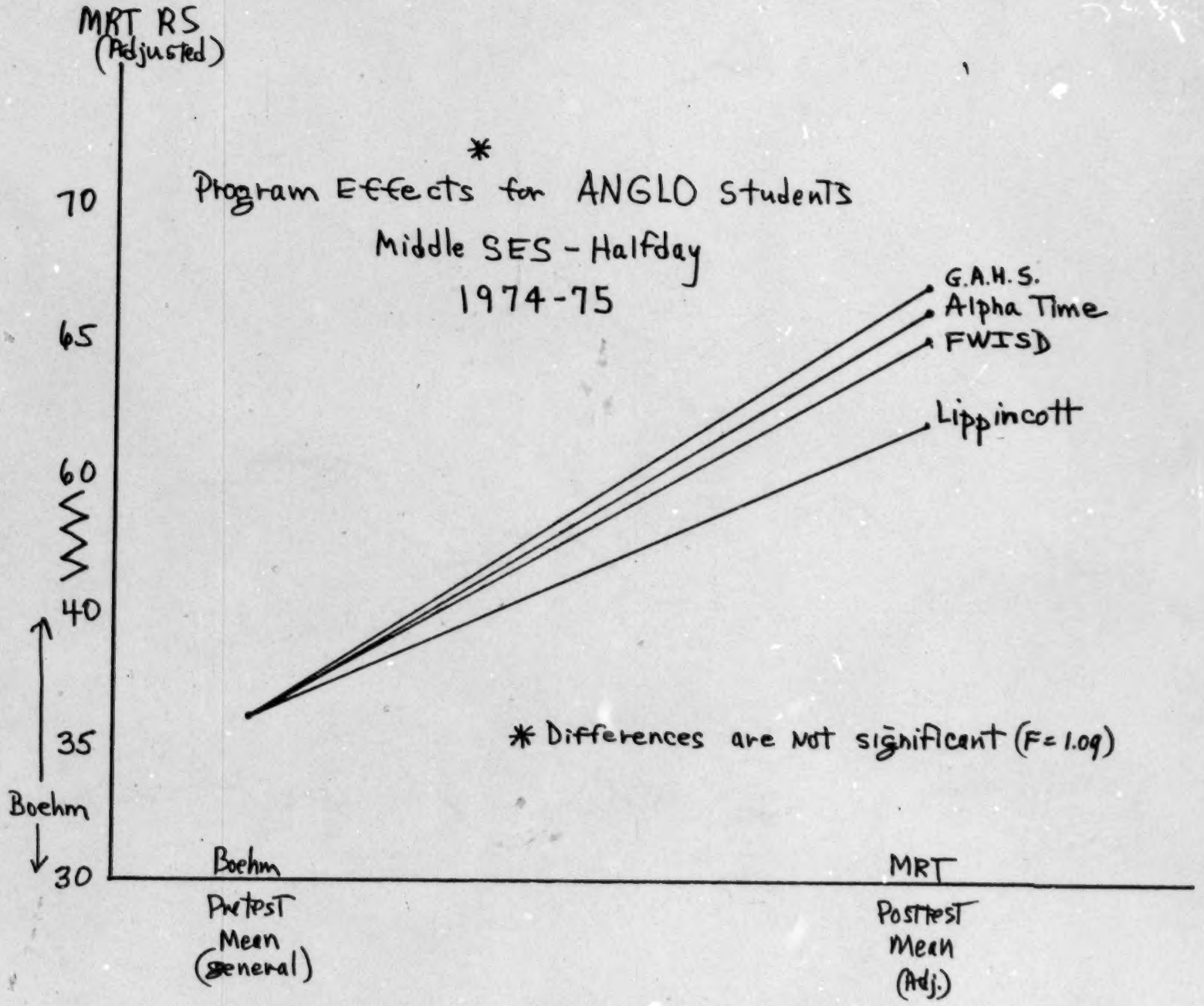
Table 7. Comparison of Program Effects on Middle SES Anglos in Half-Day Sessions

Program (Ranked by Effect)	N	Boehm Pretest RS	MRT Posttest RS	Adj. Post* RS
Getting a Head Start	21	36	66	67
Alpha Time	44	37	66	66
FWISD	41	37	67	65
Lippincott	23	35	60	62
Aggregate	129	36	65	-

*Differences were not significant (F = 1.09).

Adjusted posttest scores did not differ significantly (F = 1.09) by program. Therefore, the data do not support a claim of superiority of any program for middle SES Anglo students. These comparisons are depicted in Exhibit F.

High SES Anglo children are assessed through the analysis of high SES students who were predominantly Anglo (Table 4).


MRT RS
(Adjusted)
*
Program Effects for ANGLO Students
Middle SES - Halfday
1974-75
70
65
60
40
35
30
Boehm
G.A.H.S.
Alpha Time
FWISD
Lippincott
* Differences are not significant (F=1.09)
Boehm
Pretest
Mean
(General)
MRT
Posttest
Mean
(Adj.)

Black Students (Low SES)

Data in Table 8 were generated by sampling Black students from full-day sessions in five programs. An insufficient number of Black students were sampled from the Bilingual program to be included in the analysis.

Table 8. Comparison of Program Effects on Low SES Black Students in Full-Day Sessions

Program (Ranked by Effect)	N	Boehm Pretest RS	MRT Posttest RS	Adj. Post* RS
Lippincott	32	32	65	63
Alpha Time	14	31	54	53
Getting a Head Start	23	28	47	51
Follow Through	5	27	44	48
FWISD	24	31	48	47
Aggregate	98	30	54	-

*Differences are significant ($F = 9.6$).

The adjusted posttest means differ significantly ($F = 9.6$). Comparisons of pairs of means revealed that 1) the Lippincott mean was significantly higher than all other programs and that 2) other means did not differ significantly. These comparisons are depicted in Exhibit G.

Insufficient numbers of middle or high SES Black students were available for analysis.

Mexican American Students (Low SES)

Scores of low SES Mexican American students from full-day sessions in three programs were compared: FWISD, Bilingual and Follow Through. These data are shown in Table 9.

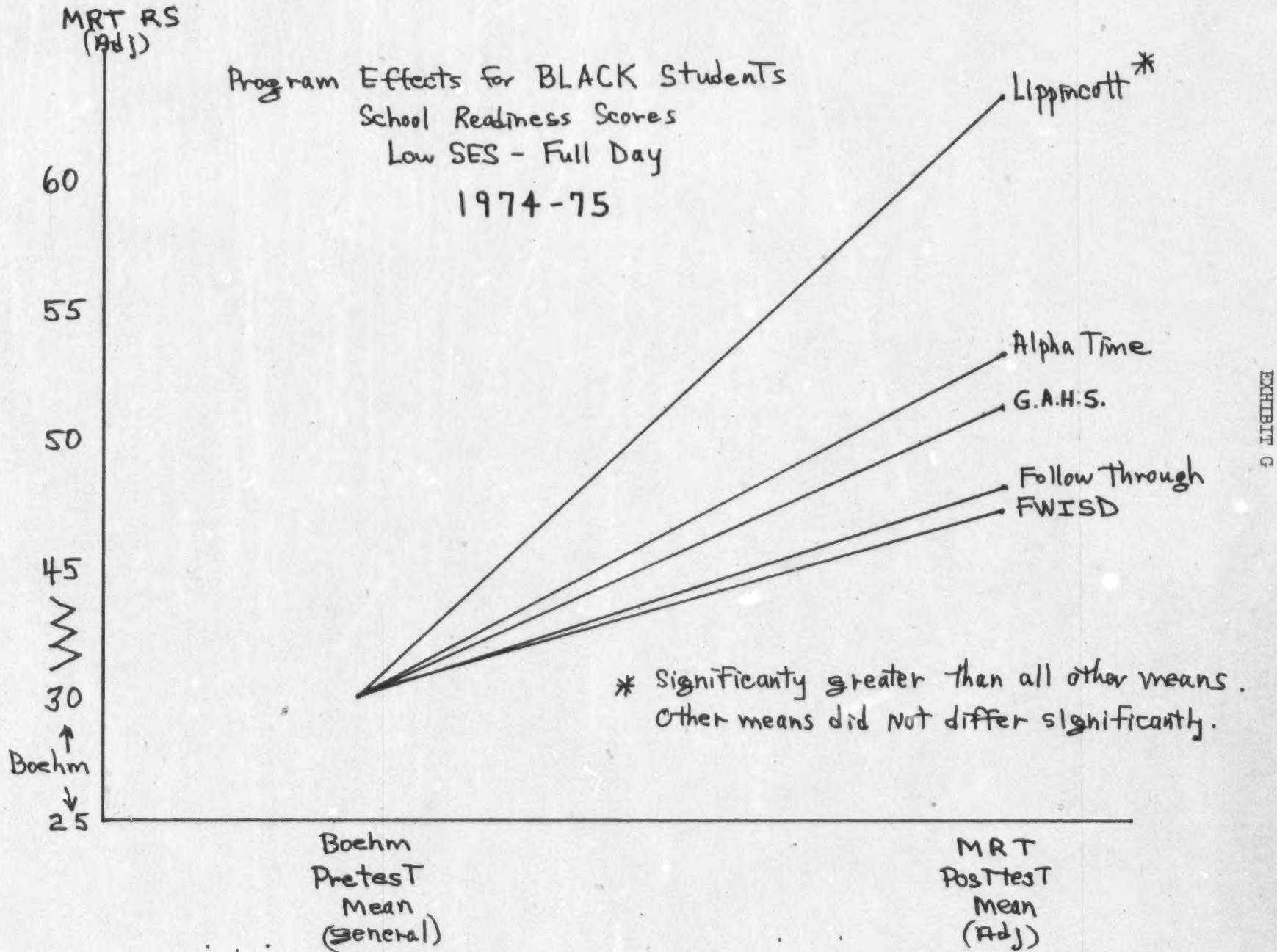

MRT RS
(Adj)
Program Effects for BLACK Students
School Readiness Scores
Low SES - Full Day
1974-75
60
55
50
45
30
Boehm
25
Lippincott *
Alpha Time
G.A.H.S.
Follow Through
FWISD
* Significanty greater than all other means.
Other means did Not differ significantly.
Boehm
Pretest
Mean
(General)
MRT
Posttest
Mean
(Adj)

Table 9. Comparison of Program Effects on Low SES Mexican American Students in Full-Day Sessions

Program (Ranked by Effect)	N	Boehm Pretest RS	MRT Posttest RS	Adj. Post* RS
Bilingual	39	24	47	48
FWISD	7	25	47	47
Follow Through	11	27	48	46
Aggregate	57	25	47	-

*Differences are not significant P = .18).

Adjusted posttest means of the three programs did not differ significantly (P = .18); therefore, no claims for superiority by any program for Mexican American students is supported by the data (see Exhibit H).

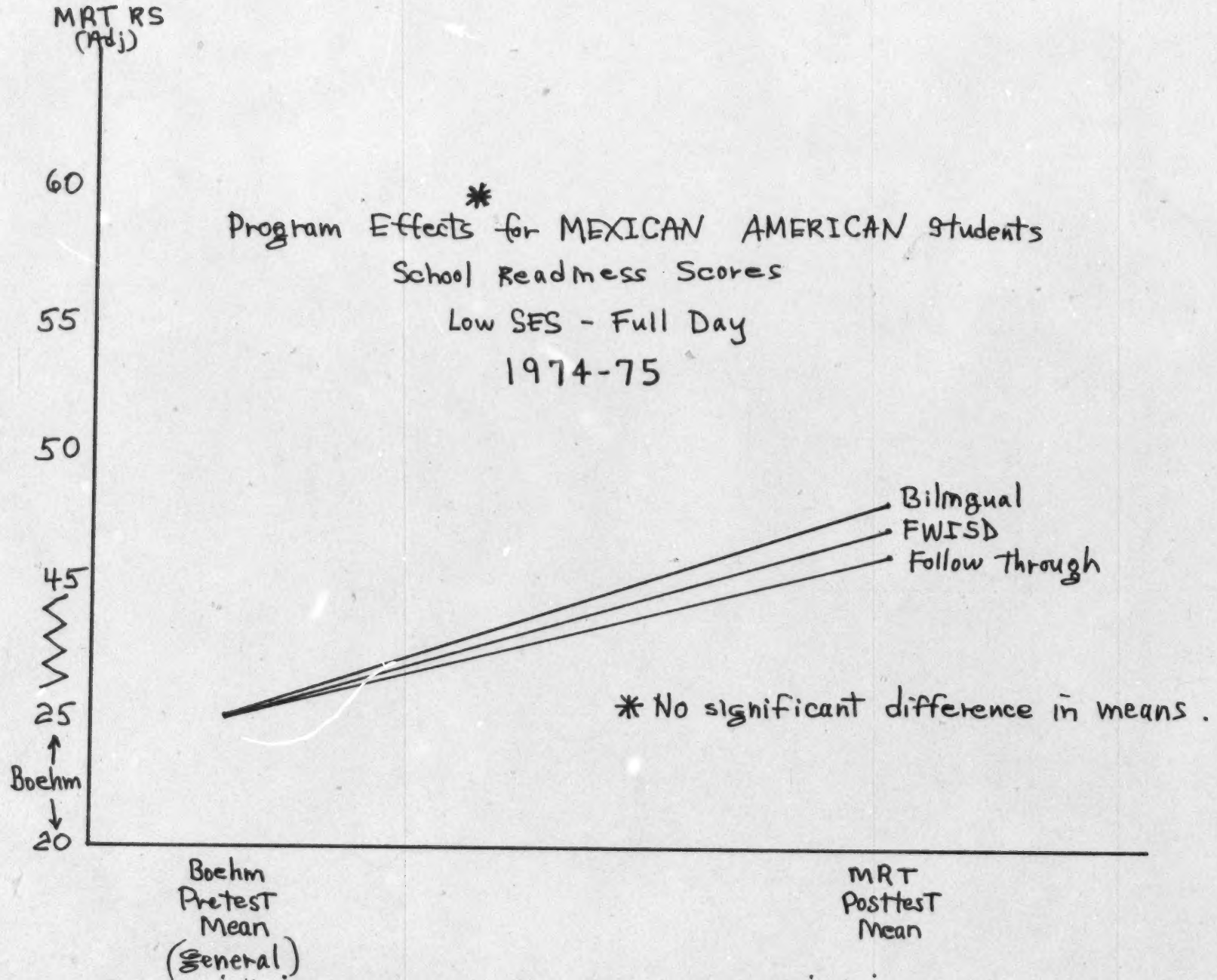
Insufficient numbers of middle and high SES Mexican American children were available for analysis.

Ethnicity as a Variable in 'Analysis of Regression'

Data in Table 5 report the independent effects of each variable as shown by the reduction in the proportion of the variance (R^2) in MRT scores when a given variable is removed from the data analysis.

Data in Table 5 substantiate that result as the R^2 of the full model is unchanged (significantly) by the exclusion of knowledge of ethnicity.

This analysis supports the conclusion that when a pretest score and SES are available, knowledge of race has no real value in predicting achievement.


MRT RS
(Adj)
60
55
50
45
25
Boehm
20
Program Effects * for MEXICAN AMERICAN Students
School Readiness Scores
Low SES - Full Day
1974-75
Bilingual
FWISD
Follow Through
* No significant difference in means.
Boehm
Pretest
Mean
(General)
MRT
Posttest
Mean

Question 4.

Will full-day kindergarten be more effective than half-day kindergarten in terms of developing cognitive skills as measured by the Metropolitan Readiness Test?

Middle and High SES Students in Half-Day and Full-Day Sessions

Data in Table 10 show the pretest measure (Boehm), posttest mean (MRT), and adjusted posttest mean of middle and high SES students.

Table 10. Half-Day vs. Full-Day Sessions in Four Programs* Serving Middle and High SES Students

SES	Half-Day				Full-Day			
	N	Boehm Pre RS	MRT Post RS	Adj. Post	N	Boehm Pre RS	MRT Post RS	Adj. Post
High SES	160	39	70	71	117	40	75	74
Middle SES	147	36	64	61	108	30	56	60
Aggregate for Sessions	307	37	67	66**	225	35	66	67**

*Lippincott; Alpha Time; Getting a Head Start; FWISD.
**The P of the adjusted posttest means (.62) was not significant for differences in full-day and half-day sessions.

Although main effects of 'half-day vs. full-day' were not significant (P = .62), significant interaction was present (F = 5.19; P = .02). This interaction between full-day/half-day and SES is shown in Exhibit I. The data indicate that full-day sessions were beneficial for high SES students but not for middle SES students.

Middle SES Students in Half-Day and Full-Day Sessions

Data in Table 11 show the pretest (Boehm), posttest (MRT), and adjusted posttest of sampled students in half-day and full-day sessions in three programs: FWISD, Alpha Time, and Getting a Head Start.

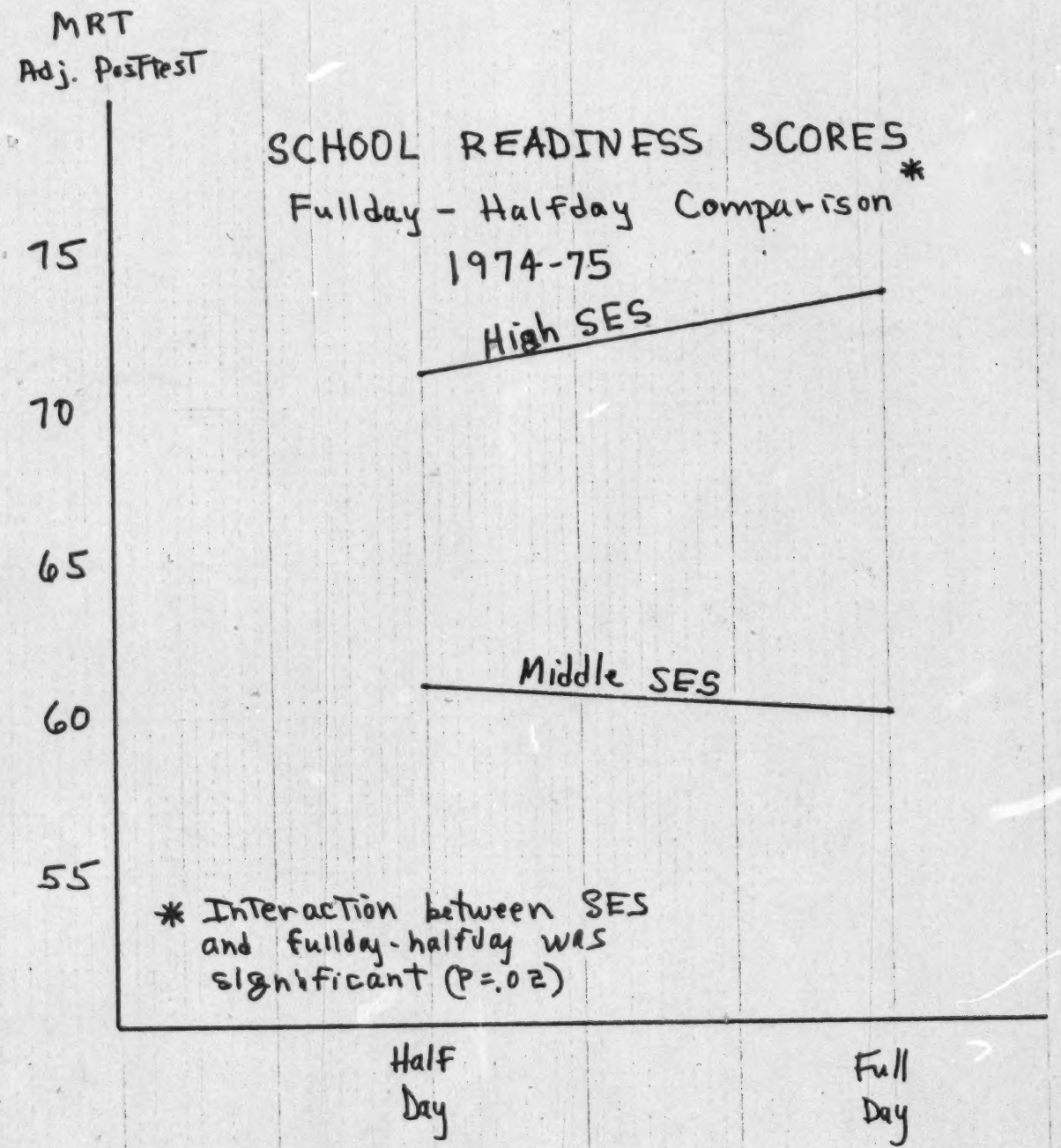

MRT
Adj. Posttest
SCHOOL READINESS SCORES
Fullday - Halfday Comparison
1974-75
*
75
70
65
60
55
High SES
Middle SES
* Interaction between SES and fullday-halfday was significant (P=.02)
Half Day
Full Day

Table 11. A Comparison of MRT Scores in Half-Day and Full-Day Sessions, Middle SES Students, Three Programs

Program	Half-Day				Full-Day				Aggregate Adj. Means for Programs
	N	Boehm Pre	MRT Post	Adj. Post	N	Boehm Pre	MRT Post	Adj. Post	
FWISD	46	37	66	61	43	30	54	59	60*
Alpha Time	54	35	64	61	49	30	55	59	61*
G.A.H.S.	23	35	65	64	12	33	61	63	62*
Aggregate for Sessions	123	36**	65**	62***	108	30**	55**	60***	-

*Differences were not significant for programs (P = .55).
**The aggregate pretest mean equalled 33; aggregate posttest mean equalled 61.
***Differences were not significant for half-day/full-day (P = .30).

Aggregate differences between half-day and full-day sessions were not significant (P = .30). Half-day students averaged an adjusted posttest score of 62 on the MRT; full-day students averaged 60. Results by programs are depicted in Exhibit J.

High SES Students in Half-Day and Full-Day Sessions

Data in Table 12 report the pretest (Boehm), posttest (MRT), and adjusted posttest scores of high SES students in both full-day and half-day sessions. The data were obtained by random sampling from three programs: FWISD, Alpha Time and Lippincott. Getting a Head Start was excluded as none of its high SES students were in full-day sessions.

COMPARISON of FULLDAY-HALFDAY EFFECTS

Middle SES

1974-75

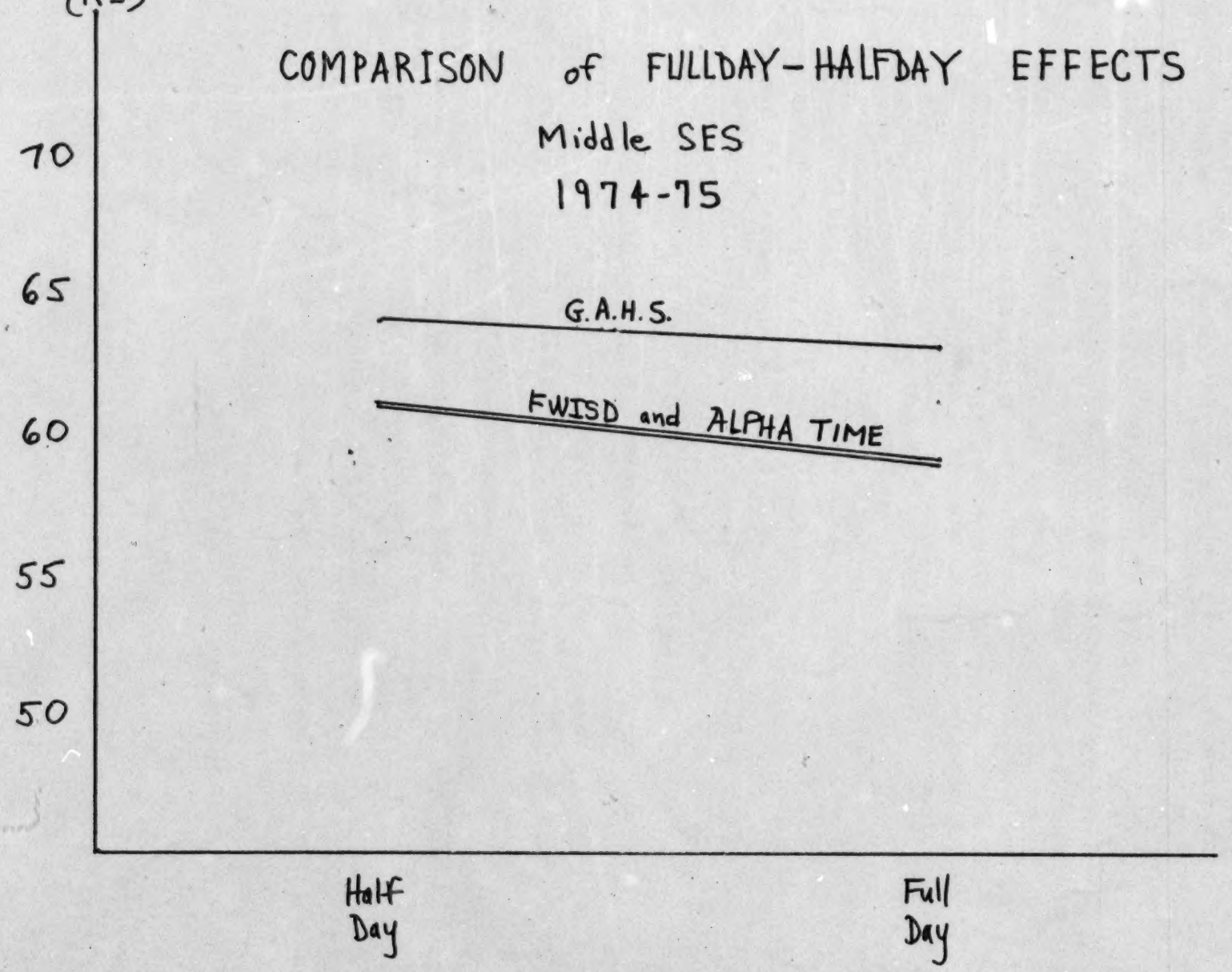


EXHIBIT J

Table 12. A Comparison of Full-Day vs. Half-Day Results, High SES Students, Three Programs

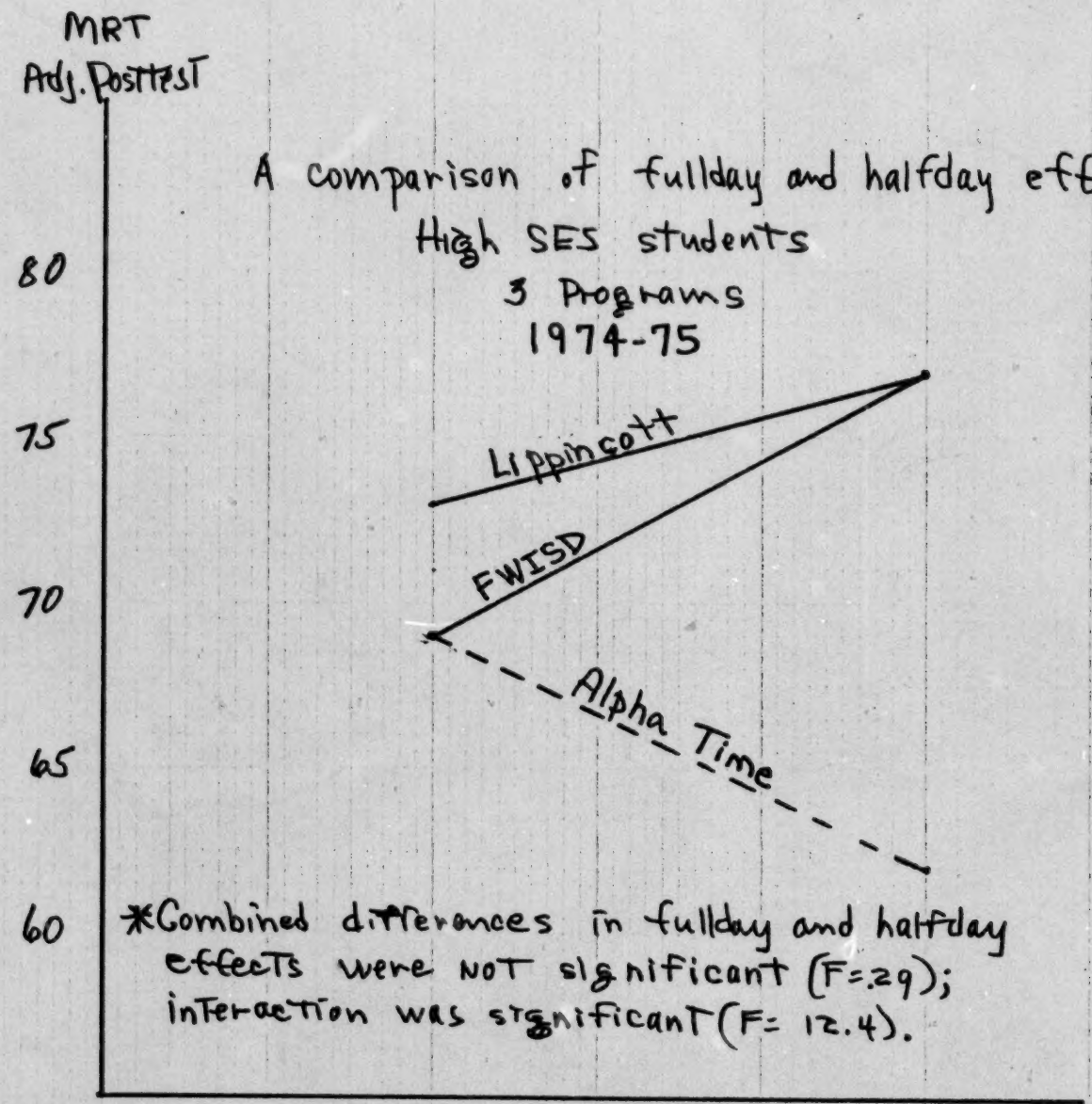
Program	Half-Day				Full-Day				Aggregate Adj. Means for Programs
	N	Boehm Pre*	MRT Post*	Adj. Post	N	Boehm Pre*	MRT Post*	Adj. Post	
FWISD	36	38	67	69	67	41	78	77	73
Alpha Time	51	39	69	69	23	40	63	62	67
Lippincott	51	39	74	73	27	39	77	77	75
Aggregate for Sessions	138	39	70	71**	117	40	75	74**	-

*The aggregate pretest mean equalled 40; aggregate posttest mean equalled 72.
**Differences were not significant (P = .29).

The aggregate differences across total programs were not significantly different (P = .29) for half-day and full-day students, although favoring the latter. However, significant interaction is present again due to the better effects for half-day in one program: Alpha Time. Differences favored the full-day students in the FWISD and Lippincott programs as shown in Exhibit K and were significant (P = .001) when Alpha Time was excluded from the data analysis. Program differences were significant (P = .001). The Scheffé test indicated that both the Lippincott and the FWISD program obtained significantly higher MRT results than Alpha Time.

Full-Day/Half-Day as a Variable in 'Regression Analysis'

The full model in the 'regression analysis' produced a multiple R of .76 and an R^2 of .58. A restricted model was developed that omitted the full-day/half-day variable. The results of this analysis are reported in Table 5. The resulting R and R^2 only changed at the third decimal place from that of the full model. The implication of these analyses was that 'full-day/half-day' was not a significant variable across all six programs.


MRT
Adj. Posttest
A comparison of fullday and halfday effects*
High SES students
3 Programs
1974-75
80
75
70
65
60
Lippincott
FWISD
Alpha Time
*Combined differences in fullday and halfday effects were NOT significant (F=.29); interaction was significant (F= 12.4).
Half Day
Full Day

CHAPTER IV

Comparison of Results for 1973-74 and 1974-75

Summary of 1973-74 Evaluation

In 1973-74 the Lippincott, Alpha Time, Fort Worth Continuum, Follett, Distar, Getting a Head Start, and Follow Through curricula were evaluated.[1] The Boehm Test of Basic Skills was given as the pretest and the Metropolitan Readiness Test was given as the posttest. Test results from the 1973-74 kindergarten study are summarized below.

1) Children in the Lippincott curriculum achieved significantly higher end-of-year test scores on the Metropolitan than children in the other curricula.
2) Examination of curricula results by socio-economic status of school reveals that the Lippincott curricula elicited higher results for children in the high and low socio-economic schools.
3) Children in the middle SES schools adjusted end-of-year test scores were not significantly different for the four curricula evaluated. The Alpha Time, Follett, Fort Worth Continuum, and Lippincott were implemented in middle SES schools.
4) Examination of curricula results by ethnic groups revealed that the Lippincott curricula elicited higher posttest adjusted scores for Anglos, Blacks, and Mexican American children.
5) Test data did not support the hypothesis that full-day sessions would elicit improved school readiness in the cognitive domain, particularly for middle SES children. Some support was evidenced that full-day kindergarten sessions were more successful for low SES children.

[1] "The Evaluation of Seven Kindergarten Curricula", 1973-74 Fort Worth I.S.D., by Fae Lysiak and Dr. Charles L. Evans (Local District Report).

Summary of 1974-75 Evaluation

The 1974-75 evaluation was completed on the kindergarten curricula implemented. Those implemented were: Lippincott, Alpha Time, Fort Worth Continuum, Getting a Head Start, Follow Through, and Bilingual. The Distar and Follett curricula were not implemented this year as they had been dropped from the State Adopted Early Childhood Curricula. Test instruments, the Boehm Test of Basic Skills as pretest and Metropolitan Readiness Test as posttest, were the same ones used for the 1973-74 evaluation. Results of the 1974-75 study are summarized below.

1) The Lippincott curricula achieved significantly higher adjusted posttest means than the other programs.
2) Examination of curricula results by socio-economic groups revealed that the Lippincott Program achieved significantly higher end-of-year results for children in low socio-economic schools.
3) Sufficient numbers of middle SES children in full-day programs were available in only three curricula: Fort Worth Continuum, Getting a Head Start, and Alpha Time. Results indicate that there are no significant end-of-year differences for children in these curricula.
4) High SES children in the Alpha Time, Lippincott, and Fort Worth Continuum were evaluated. Results indicate that children in the Lippincott and Fort Worth Continuum achieved significantly higher end-of-year results than children in the Alpha Time curricula.
5) Examination of curricula effects by ethnic and socio-economic groups revealed that low SES Anglo children in the

Fort Worth Continuum achieved significantly higher end-of-year scores than the children in the Bilingual curriculum. Differences were not significant for Alpha Time and Follow Through children.

6) Examination of scores of low SES Black children in full-day programs using the Lippincott, Alpha Time, Getting a Head Start, Follow Through, and Fort Worth Continuum curricula revealed that the Lippincott posttest adjusted means were significantly higher than all other programs. Other program means did not differ significantly. The number of high or middle SES Black children were insufficient for analysis.
7) An evaluation of middle SES Anglo children's program effects in only half-day sessions was made by program. Evaluation of the four curricula with sufficient numbers of middle SES children revealed there were no significant differences among program effects for Getting a Head Start, Alpha Time, Fort Worth Continuum, and Lippincott.
8) Program effects for the three curricula implemented with low SES full-day Mexican American children indicate that there was no significant difference among means of children in the Bilingual, Fort Worth Continuum, or Follow Through.
9) High SES children enrolled in three curricula were examined for students in full-day and half-day sessions. Combined results indicated high SES children made significantly greater gains in the Lippincott and Fort Worth Continuum than in the Alpha Time curriculum.

10) Full-day/half-day effects were examined for middle and high SES children. Results indicate that the full-day program was benefical to high SES children in the Lippincott and Fort Worth Continuum. High SES children in the Alpha Time Program achieved better results in the half-day program. There were no significant differences in full-day over half-day effects for middle SES children. There were insufficient numbers of low SES children in half-day programs for comparison.

11) Examination of the independent effects of individual variables indicates that the pretest was the most significant predictor of posttest results. Only the socio-economic status of children added significantly to this prediction. Significant prediction was not added by sex, ethnicity, or half-day/full-day sessions.

Comparison of Results Over Two-Year Study

The following findings were consistant over the two-year period:

1) The Lippincott curriculum elicited significantly higher school readiness test results than the other programs.

2) The Lippincott curriculum was most effective for the children in the low socio-economic schools.

3) There were no significant differences among the curricula for the middle socio-economic schools.

4) The Lippincott program and Fort Worth Continuum were most effective for the children in the high socio-economic schools.

5) The Lippincott program was the most effective program for Black children.

6) Pretest scores were the best predictor of posttest results. The socio-economic status was the only other variable examined that added significantly to this predictor.

7) The data did not support full-day programs over half-day programs for middle socio-economic schools.

Conclusions

The data reported over this two-year period support the hypothesis that structured programs produce greater cognitive gains for disadvantaged children. The study also suggested that a structured program may be more beneficial for high SES children.

The importance of the intervening treatment was established in that Black disadvantaged children exposed to the Lippincott program scored higher on the measure of school readiness than did high SES children exposed to another specific program.

BIBLIOGRAPHY

1. Prepared by: Fae Lysiak and Dr. Charles L. Evans, "The Evaluation of Seven Kindergarten Curricula", 1973-74, Fort Worth Independent School District (local District Report).

2. Prepared by: Robert H. Talbert, "Fort Worth Area Census Tract and Market Fact Book", Texas Christina University, 1972, pp. 159-163.